

INTERNATIONAL
STANDARD

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**Heat-processed foods in hermetically
sealed containers — Determination of pH**

Produits alimentaires en conserves — Détermination du pH



Reference number
ISO 11289:1993(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11289 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Sub-Committee SC 9, *Microbiology*.

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Heat-processed foods in hermetically sealed containers — Determination of pH

1 Scope

This International Standard describes a potentiometric method for determining the pH of the aqueous phase of all types of food preserves.

It is particularly intended to be used to check the biological stability of food preserves.

This International Standard is applicable to the following four classes of product.

Class 1: homogeneous products with a liquid or thick texture, or products exhibiting a large liquid or thick phase which imparts a presumed uniformity of pH to the product.

Class 2: homogeneous pastes or heterogeneous products for which homogenization is necessary.

Class 3: heterogeneous products with large solid components.

Class 4: products whose liquid phase mainly consists of oil or a water/oil emulsion.

Measurements may be made at 20 °C or at 25 °C, the temperature chosen being stated in the test report.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 pH of preserves: Potential difference at the measurement temperature between two electrodes immersed in the aqueous phase of the preserves or in the sample(s) of product(s) prepared in accordance with the procedure described in this International Standard. It is expressed in pH units, with an accuracy of 0,1 pH units.

4 Principle

Preparation of the test sample according to the class to which the product to be examined belongs. Measurement of the potential difference between a glass electrode and a reference electrode immersed in the test sample.

5 Reagents

Use only reagents of recognized analytical grade.

5.1 Water, complying with grade 1 of ISO 3696, distilled immediately before use so as to avoid the absorption of carbon dioxide.

5.2 Buffer solutions, for calibration of pH-meter.

Use two standard buffer solutions, with pH values known to the second decimal at the measurement temperature, and encompassing the pH of the aqueous phase obtained from the test sample.

NOTE 1 As a general rule, a buffer solution with a pH of about 4 and another one with a pH of about 7 are used.

The following buffer solutions may be used.